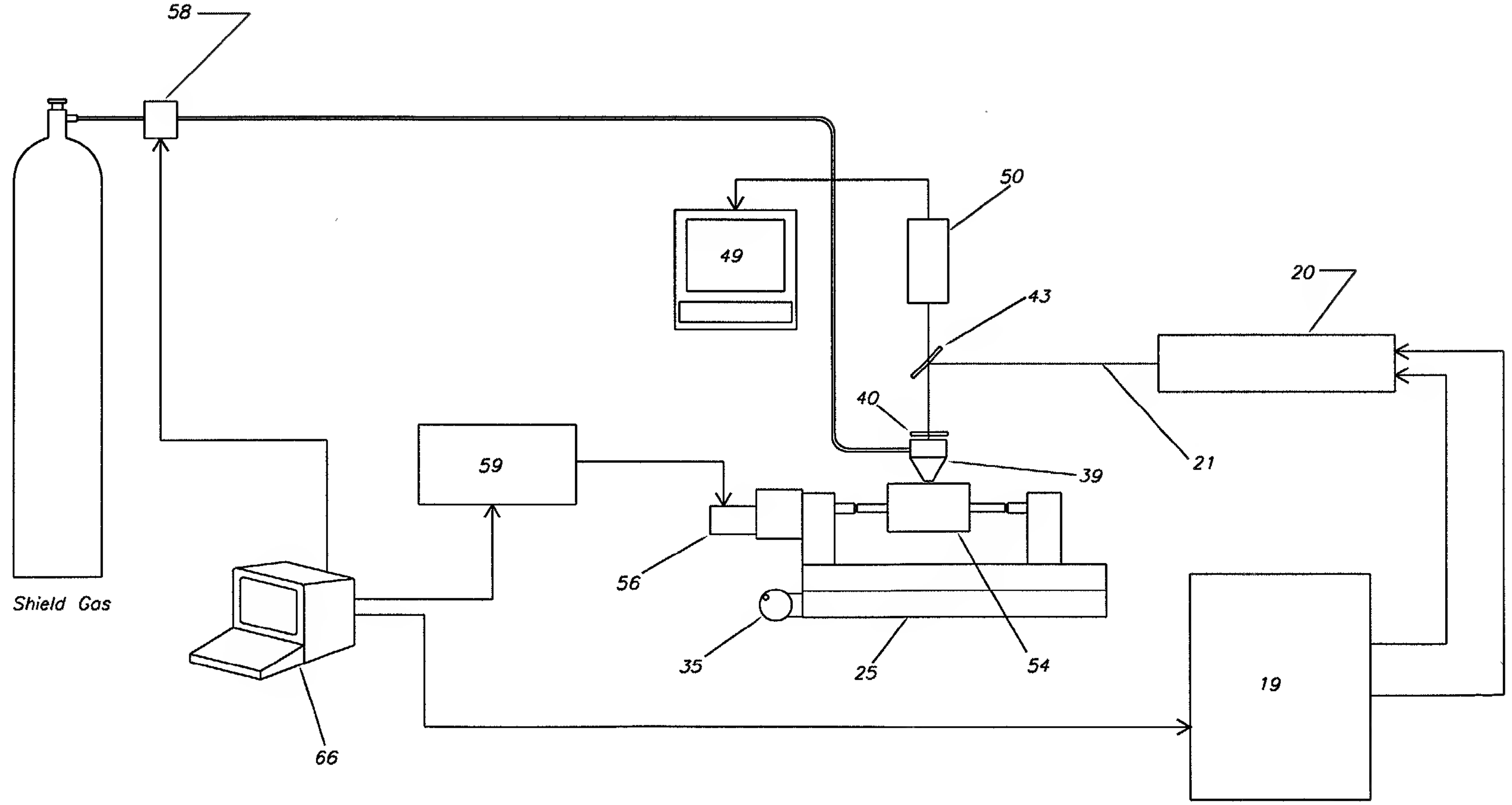


FIG. 1

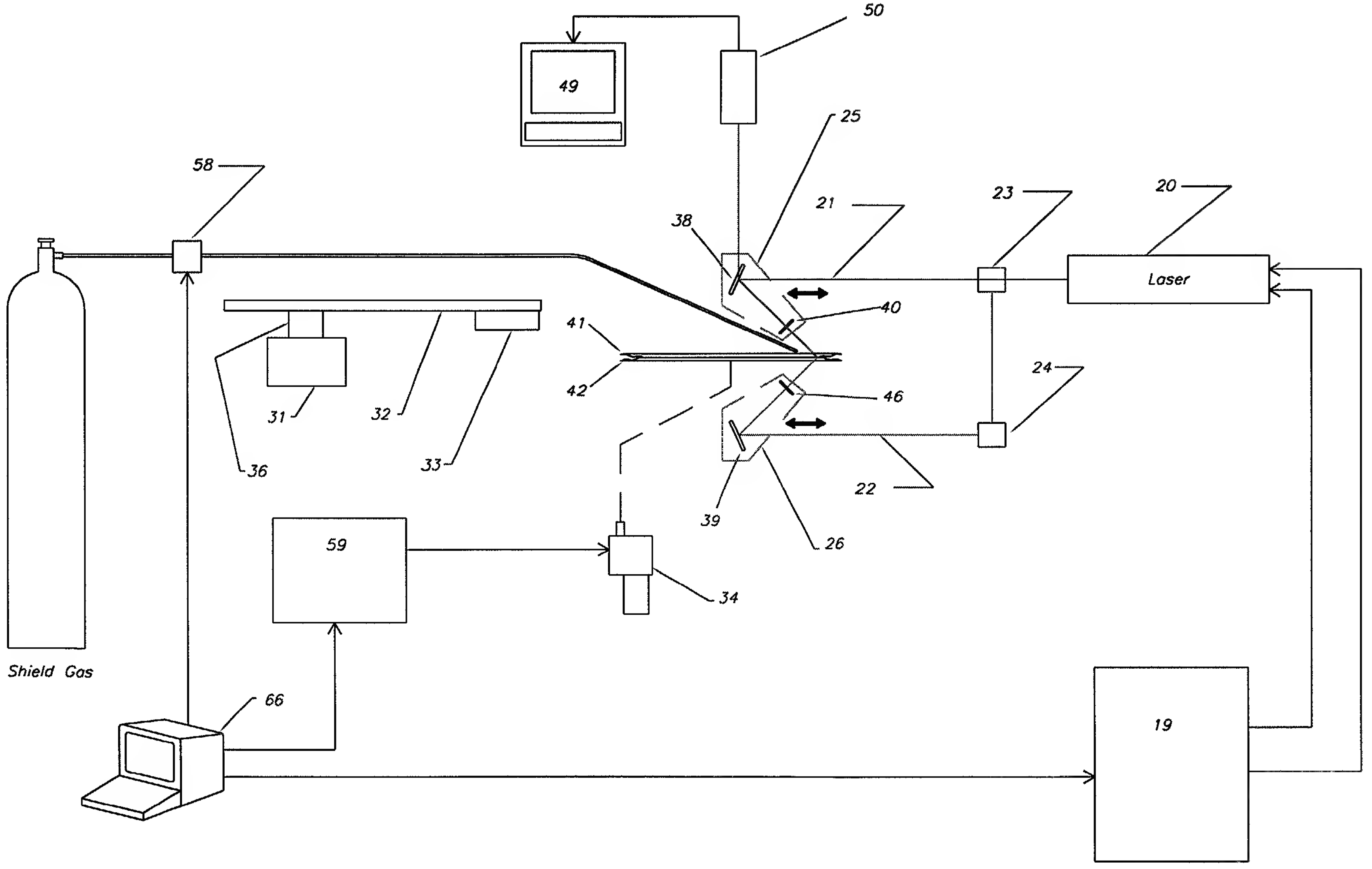

50
49
25
58
21
23
20
Laser
38
40
41
42
46
24
31
32
36
33
22
39
26
59
34
Shield Gas
66
19

FIG 2

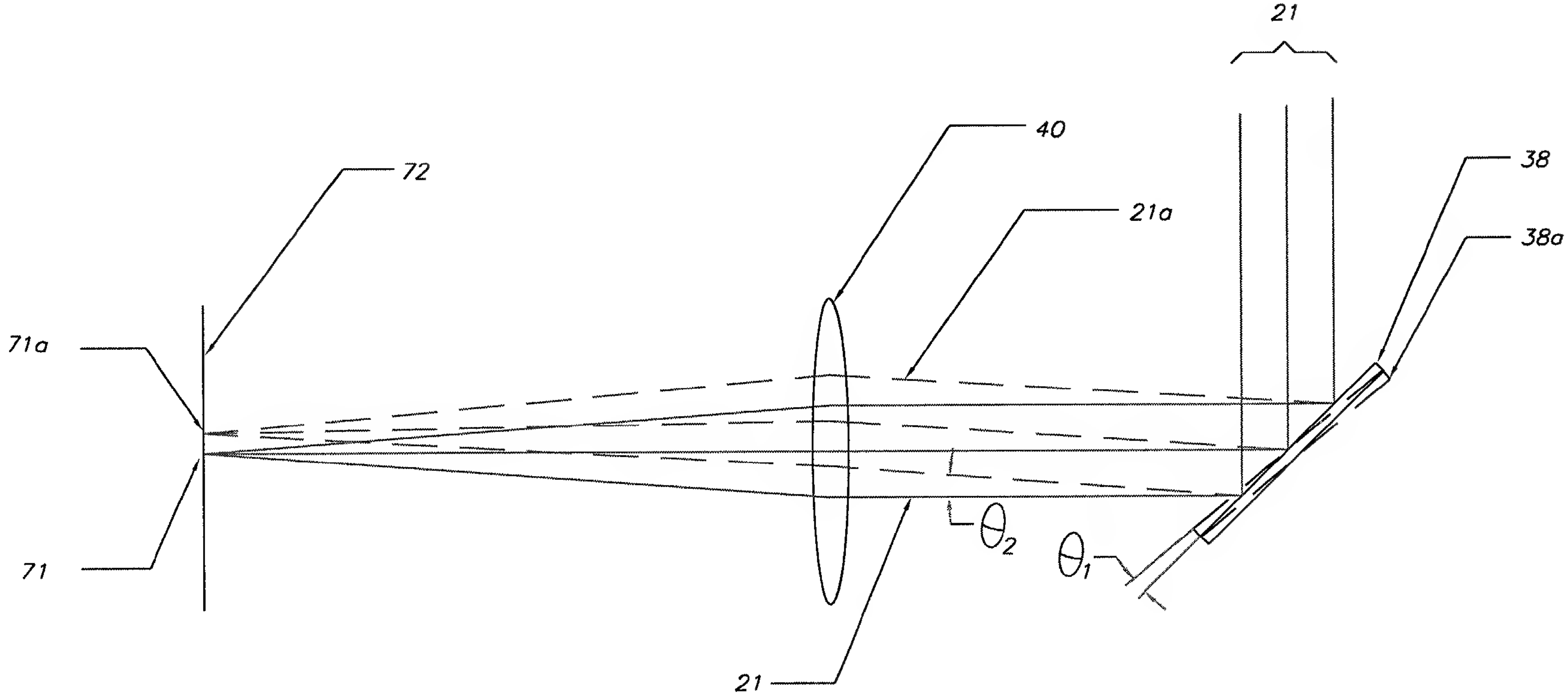


FIG 3

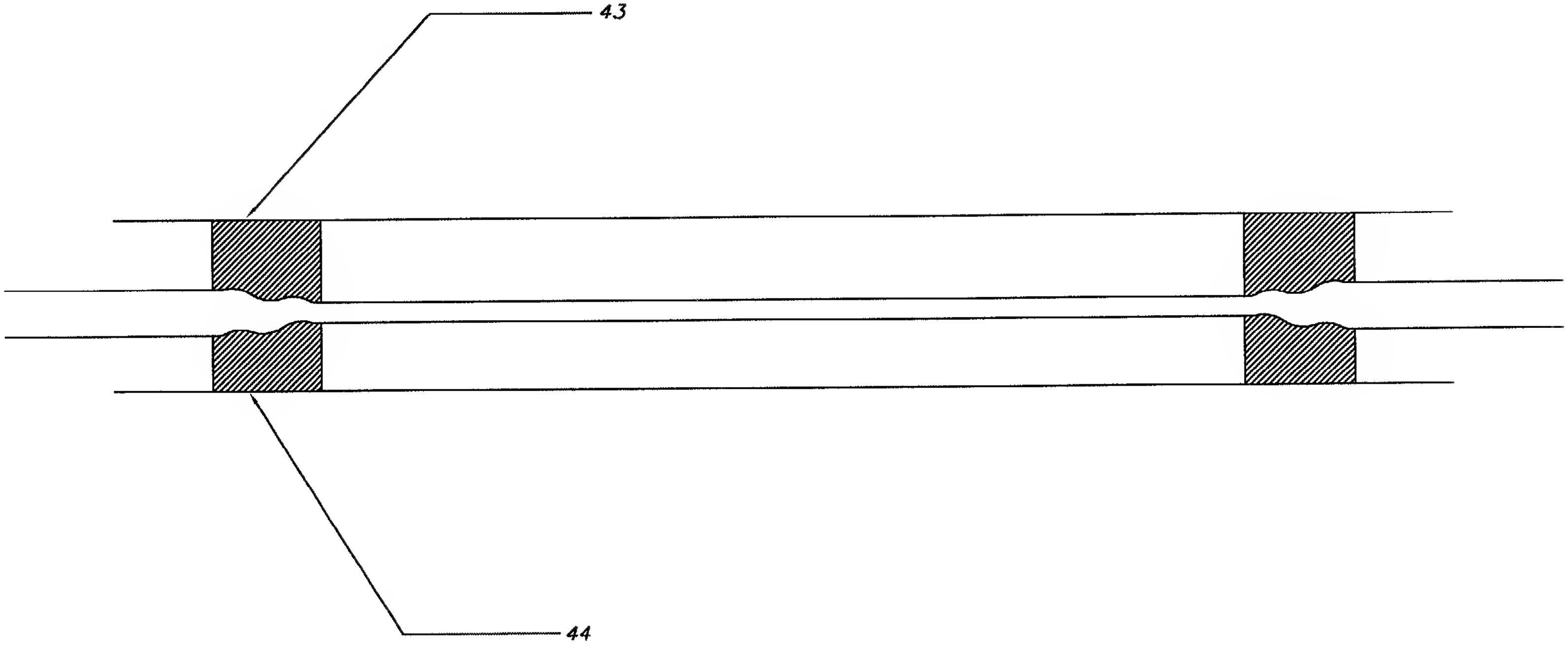


FIG 4

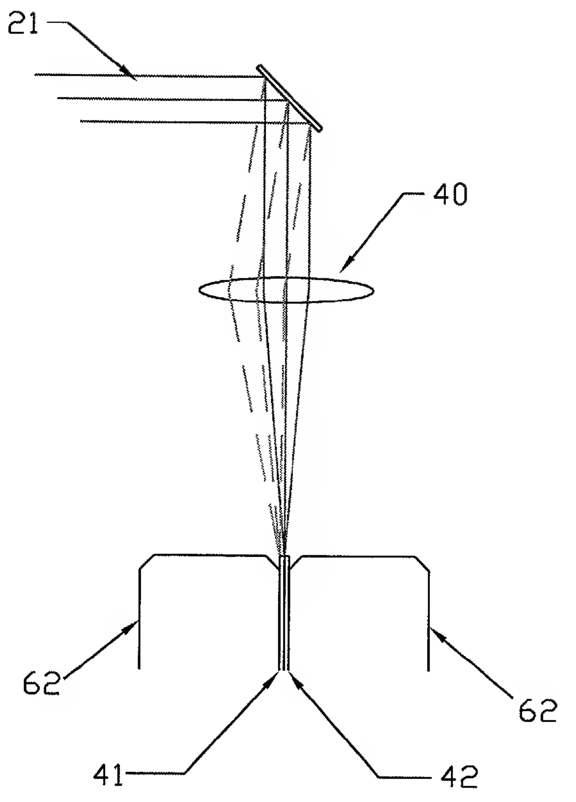


FIG 5A

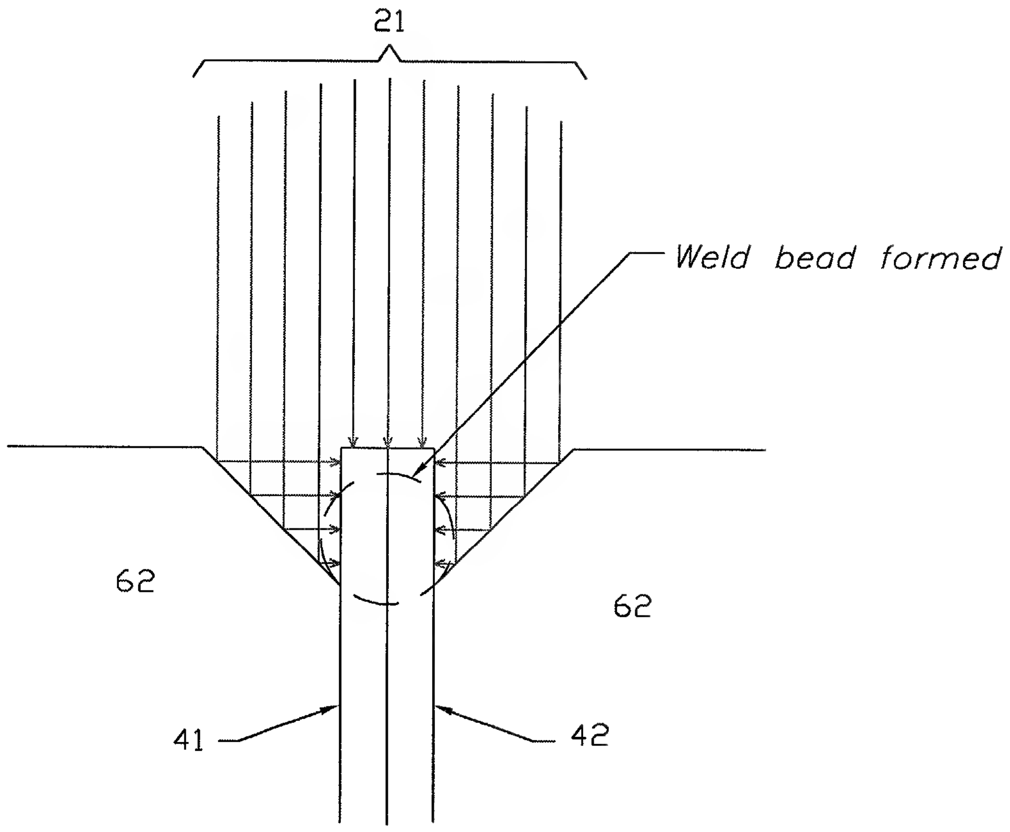


Fig 5B

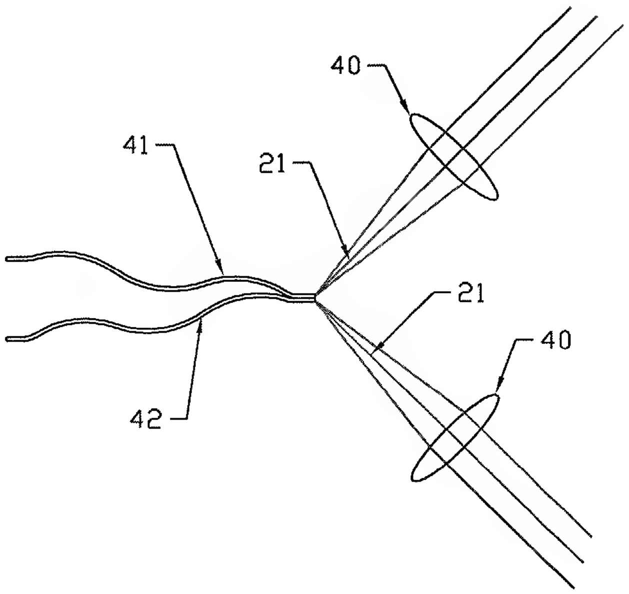


FIG. 6A

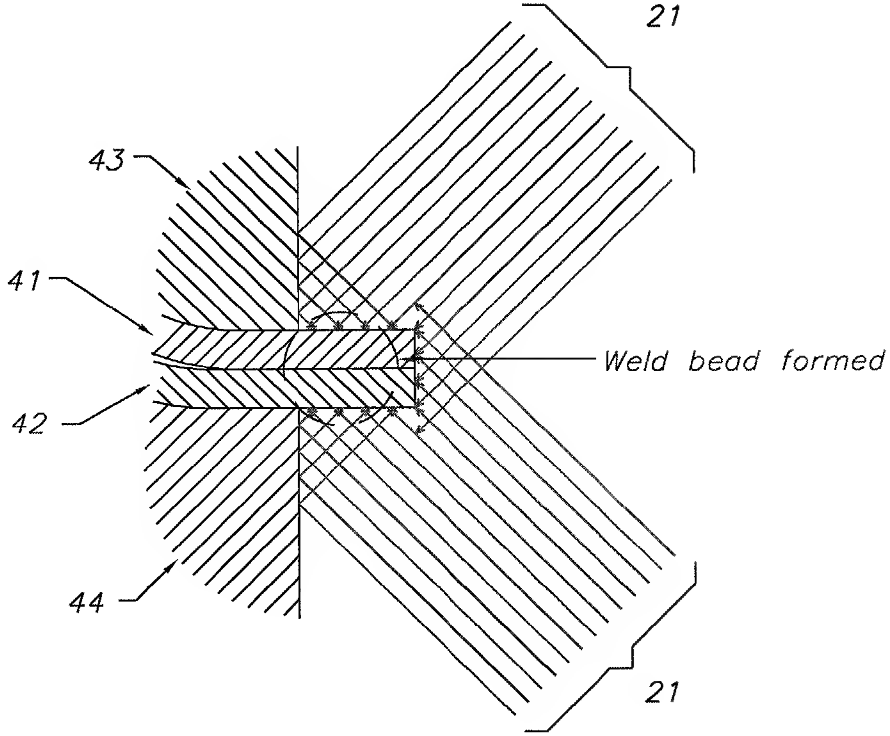


FIG. 6B

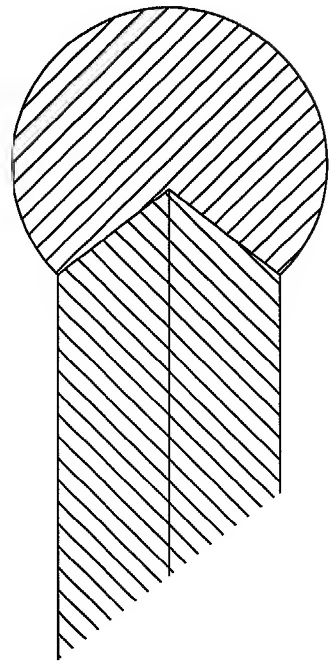


Fig. 7A

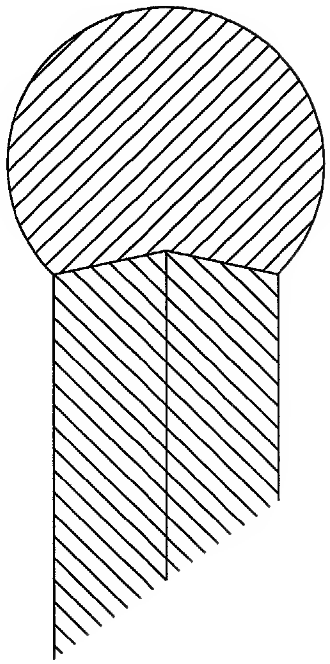


Fig. 7B

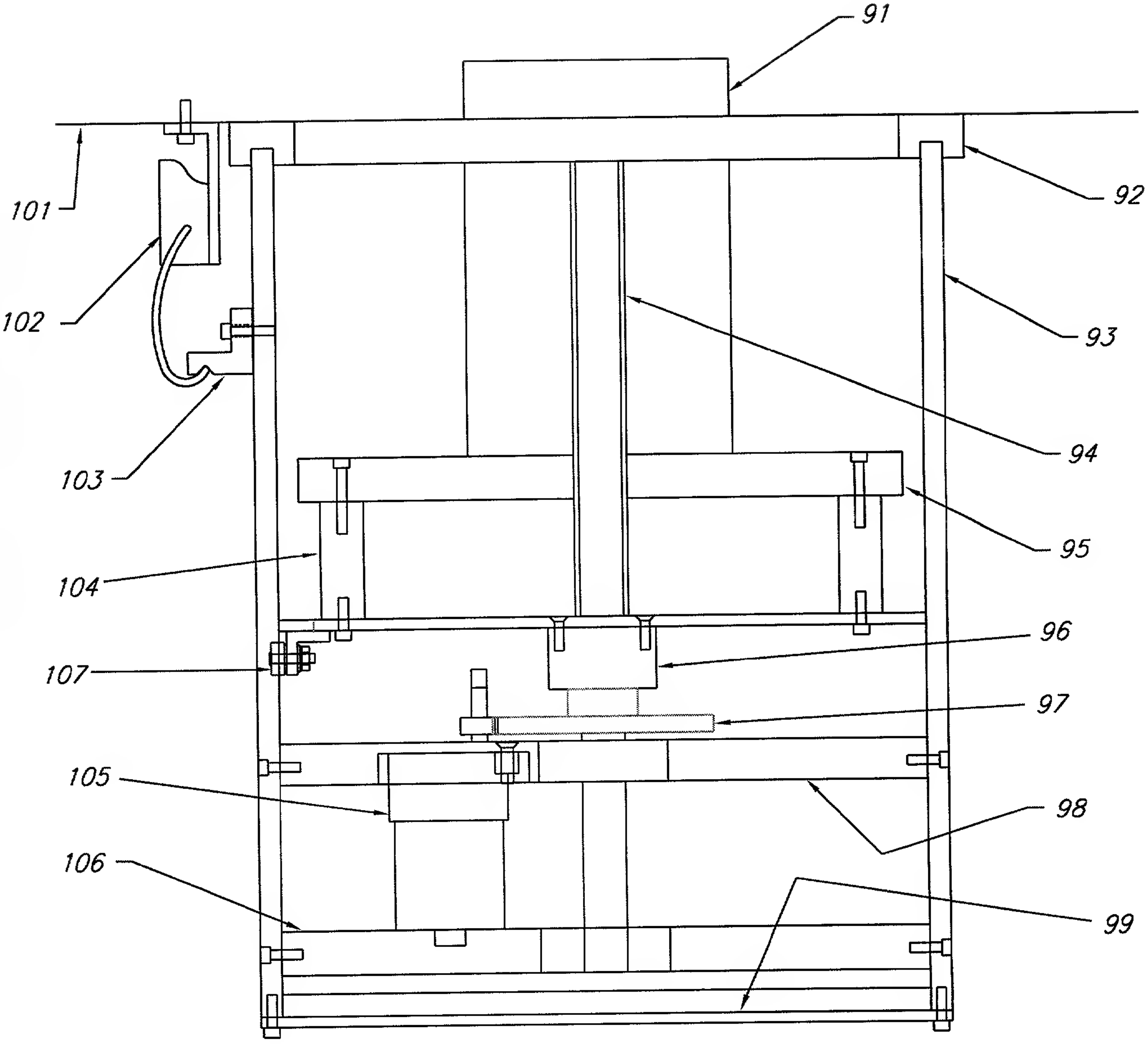
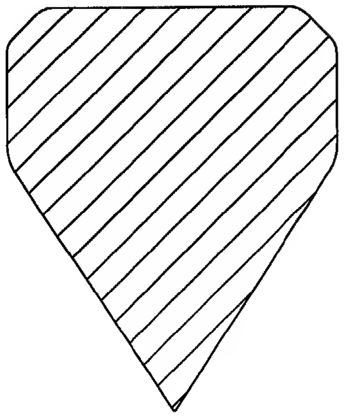


Fig. 8



Section A–A

FIG 9A

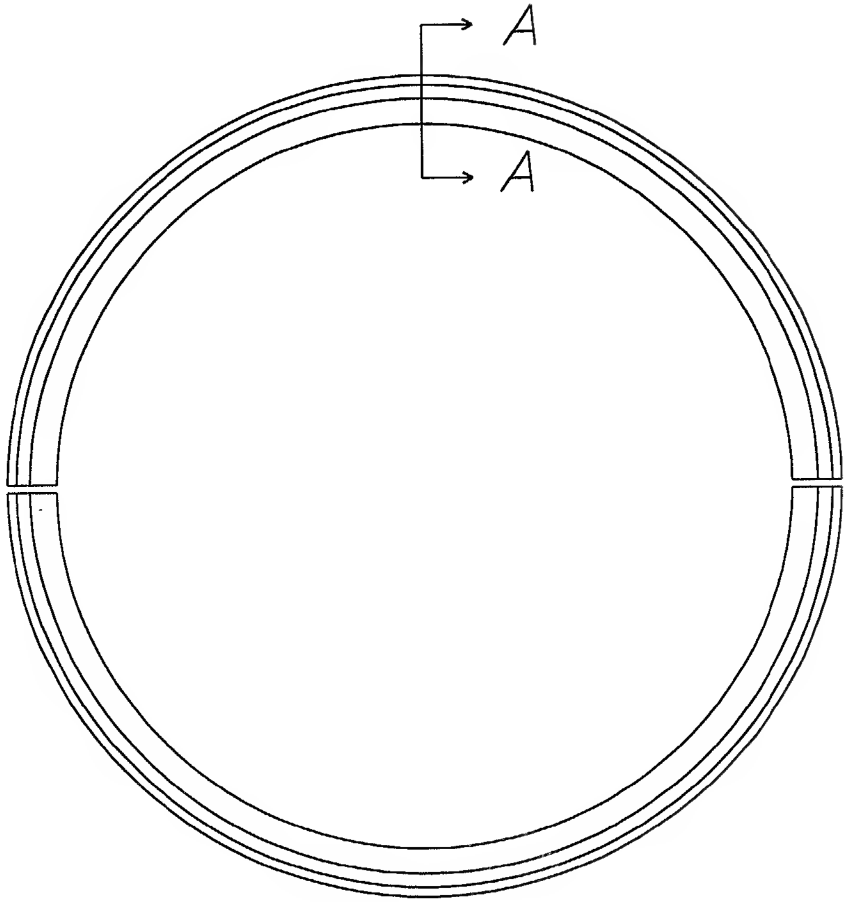
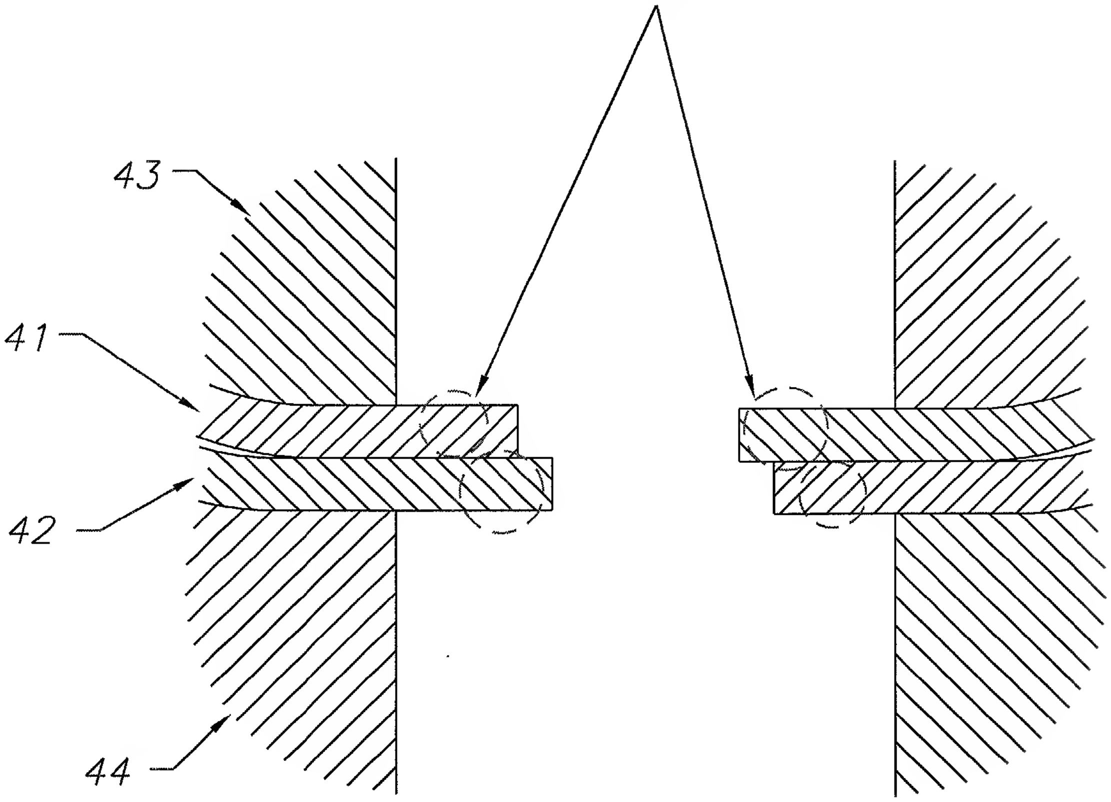


FIG 9B



Molten beads may not run together, forming incomplete weld
43
41
42
44

FIG 10

$$H * 2t = Aw$$

$$H = \frac{3/2\pi * t^2 + t^2}{2t}$$

$$H = \left(3/4\pi + 1/2\right) t$$

$$H = 2.856t$$

$$Hd + \sqrt{2} * t + t = H$$

$$Hd = H - \sqrt{2} * t - t$$

$$Hd = 0.441t$$

Area of Circle

$Ac = 2\pi * t^2$

Area of Triangle

$At = t^2$

Area of Pie

$Ap = 1/4\ Ac - At$

$= 1/2\pi * t^2 - t^2$

Welded area $(Ac-Ap)$

$Aw = 2\pi * t^2 - 1/2\pi * t^2 + t^2$

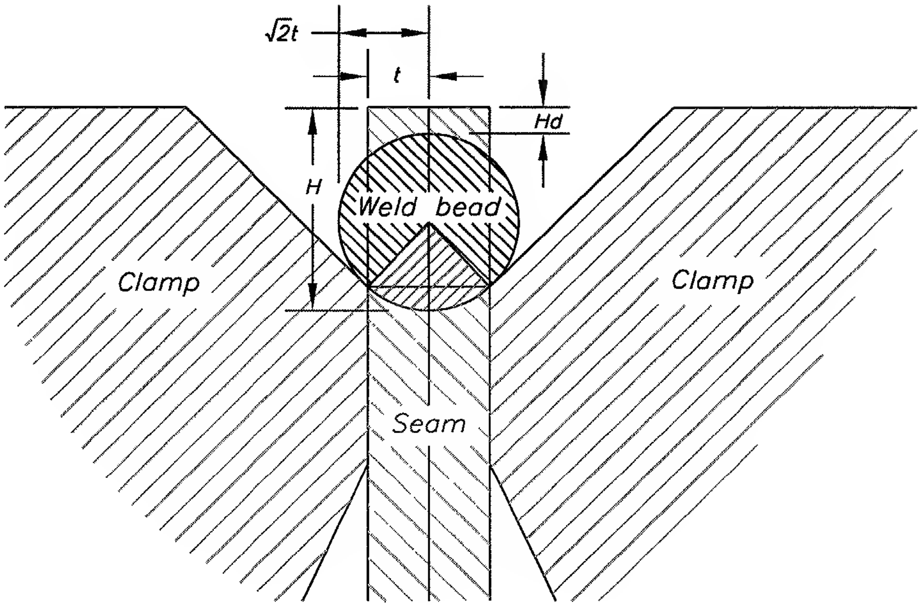


Fig. 11